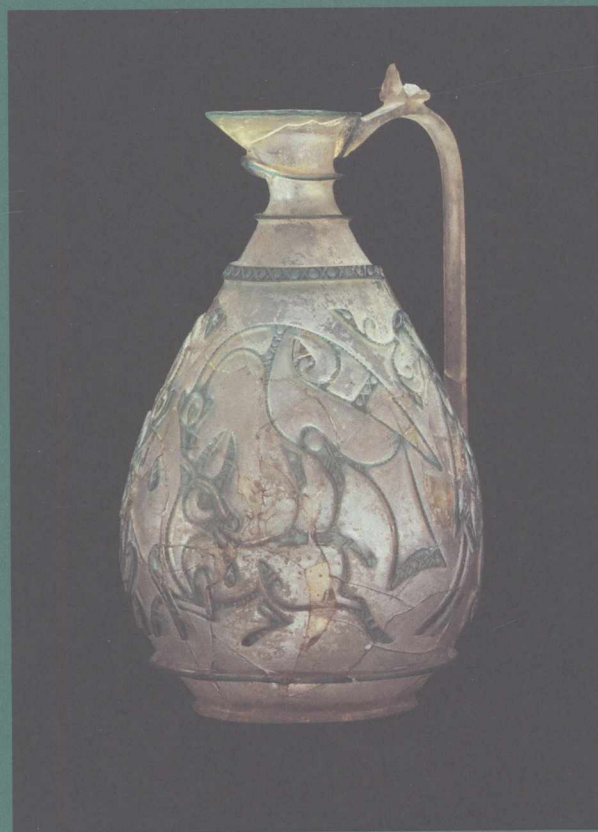


JOURNAL OF
GLASS
STUDIES



VOLUME 28 • 1986

THE CORNING MUSEUM OF GLASS

JOURNAL
OF GLASS
STUDIES

VOLUME 28 • 1986

THE CORNING MUSEUM OF GLASS
CORNING, NEW YORK

14830-2253

JOURNAL OF GLASS STUDIES

Contents

VOLUME 28 · 1986

GENEVIEVE SENNEQUIER Un certain Amarantus (ou Amaranthus?), verrier installé en Bourgogne au I ^{er} siècle de notre ère	11
LUDWIG BERGER and SYLVIA FÜNFSCHILLING Ein gläserner Askos aus Martigny/Schweiz	19
F. D. GUREVICH <i>Alsengemmen</i> from Ancient Russian Towns	24
VIRGINIA RAGUIN The Visual Designer in the Middle Ages: The Case for Stained Glass	30
MICHAEL W. COTHREN The Choir Windows of Agnières (Somme) and a Regional Style of Gothic Glass Painting	40
TARQUINIUS J. HOEKSTRA An Enameled Goblet from Utrecht, the Netherlands	66
KATALIN HOLL-GYÜRKY The Use of Glass in Medieval Hungary	70
STEFAN KRIMM Beobachtungen zur Standorttypologie vorindustrieller Glashütten im Spessart	82
Recent Important Acquisitions	98
Notes	116
Check List of Recently Published Articles and Books on Glass	127
Contributors	182
Museum Publications	183

Articles in the *Journal of Glass Studies* are arranged chronologically by historical period.

THE USE OF GLASS IN MEDIEVAL HUNGARY

KATALIN HOLL-GYÜRKY

INVESTIGATIONS into the making and use of glass began in Hungary at the turn of the century,¹ but few of these studies were concerned with glass of the Middle Ages. Thus the history of the early glass industry in Hungary was based on such studies and on the glass objects, primarily from Renaissance factories, which had been preserved in collections of applied art.² We cannot count on additional historical sources coming to light today, and thus our most important resources are finds uncovered in post-World War II archeological excavations.

The study of the Middle Ages by means of archeological methods developed in Hungary only after 1945. Among the materials found in increasing quantity have been considerable amounts of glass debris,³ but publication of these finds has been delayed by the difficulties of conservation and restoration. These post-1945 archeological finds date from 200–250 years earlier than the Renaissance objects preserved in museums and private collections, and they represent a wholly new and much richer variety of forms than those previously known. Most of the finds were household articles or industrial products which had been created in great numbers.

In the initial investigation of these materials, they have been classified on the basis of their shapes and other external qualities; their chemical components and physical characteristics will be examined at a later date. Only the published finds will be discussed in this paper. They will be examined in chronological order and in terms of their provenance, origin (local or foreign), and other problems (Fig. 1).

Information on indigenous Hungarian factories of the medieval era is limited. Only two recorded charters refer to glasshouses operating in medieval Hungary, both in the 14th century. According to one of these charters, in 1360 the council of Túróc County authorized Peter Glaser to found a glass factory near Körmöcbánya.⁴ The other charter is an agreement for a sale, concluded in 1551, in which a glass factory at Teplice is mentioned. This factory had then been working for 200 years, and it manufactured retorts in which to dissolve gold from the mines of Körmöc and Selmec.⁵

Relying upon these sources, we can identify a local glass industry as early as the middle of the 14th century, and this conclusion is supported by some archeological finds as well. In Buda at a 14th-century site, for example, a broken pot was found

1. Sándor Takáts, "A legrégebb magyar üveghuták" ["The Earliest Hungarian Glass Factories"], *Gazdaságtörténeti Szemle*, 1900, p. 478. *Idem*, "Magyar üveg, magyar üvegesek" ["Hungarian Glass, Hungarian Glassmakers"], *Századok*, 1907, pp. 630–647.

2. Lajos Sághegyi, *A magyar üvegesipar története* [*A History of the Hungarian Glass Industry*], Budapest, 1938.

3. Glass was found in the greatest quantity during the excavation of the Royal Palace in Buda: László Gerevich, "Castrum Budense," *Archaeológiai Értesítő*, v. 79, 1952, pp. 150–171, pl. 36; *idem*, *The Art of Buda and Pest in the Middle Ages*, Budapest, 1971. In quantity of glass finds, the area of the town of Buda is second: Imre Holl, *Mittelalterliche Funde aus einem Brunnen von Buda*, Budapest, 1966. See also articles by Katalin H. Gyürky on the following pages.

4. J. R. Vávra, *Das Glas und die Jahrtausende*, Prague, 1954, p. 172.

5. S. Takáts, *Gazdaságtörténeti Szemle* [note 1].

with traces of glass adhering to it.⁶ Some glass finds recently discovered seem to be products of local glassworks which operated as early as the second half of the 13th century. The examination of these finds has not yet been completed and evidence is still being gathered.

Archeological finds show that glass was in use at least 100–150 years before it was manufactured locally. Until the 12th century, only beads generally occur among the grave goods. Glass products were brought into general use by the activity of foreign merchants after this time.

The 12th Century

The earliest known glass find dates from the second half of the 12th century. It was discovered in the area of the Royal Palace in Buda, and it is a small but valuable fragment (Fig. 2). On the basis of its characteristic design it can be classified among the so-called “Hedwig beakers.” These are considered to be either Islamic or Byzantine products which came to Europe during the Crusades as reliquary beakers. The piece in question could have reached Hungary with King Béla III (1172–1196), who had grown up in Byzantium, or with his son, Endre II (1205–1235), who had been engaged in the Crusades.⁷

The 13th Century

Glassware sold by merchants to satisfy the demands of the people appeared as early as the first half of the 13th century. These glasses also furnish important information concerning the commercial relations of Hungary.

Glassware is not mentioned in any customs lists or other invoices, but glass objects occur nevertheless in considerable quantity. The absence of written sources can be explained by the fact that glass, being especially breakable, may have been included in the loads of trading caravans only as extra material in addition to those wares which provided more certain income: precious metals, textiles, spices, etc. Archeological finds attest that the first attempts at trading in glass were successful, for glass had already appeared at other civilian settlements



FIG. 1. Medieval Hungary, showing provenance of published glass.

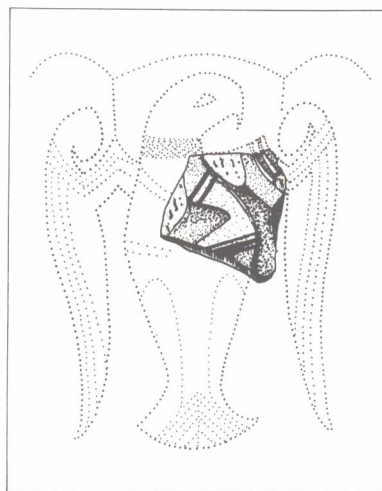


FIG. 2. Fragment of a Hedwig beaker from Buda, Royal Palace.

in the 13th century. It did not signify luxury; on the contrary, it was indispensable for personal use in households.

From the Castle Hill of Buda there are glass finds

6. L. Gerevich, *A budai vár feltárása* [The Excavation of the Castle of Buda], Budapest, 1966, p. 55.

7. Katalin H. Gyürky, “Egy XII. századi üveg ereklyetartó pohár a középkori budai királyi kápolna kincstárából” [“A 12th-Century Reliquary Glass Beaker from the Treasury of the Medieval Royal Chapel of Buda”]. In preparation.

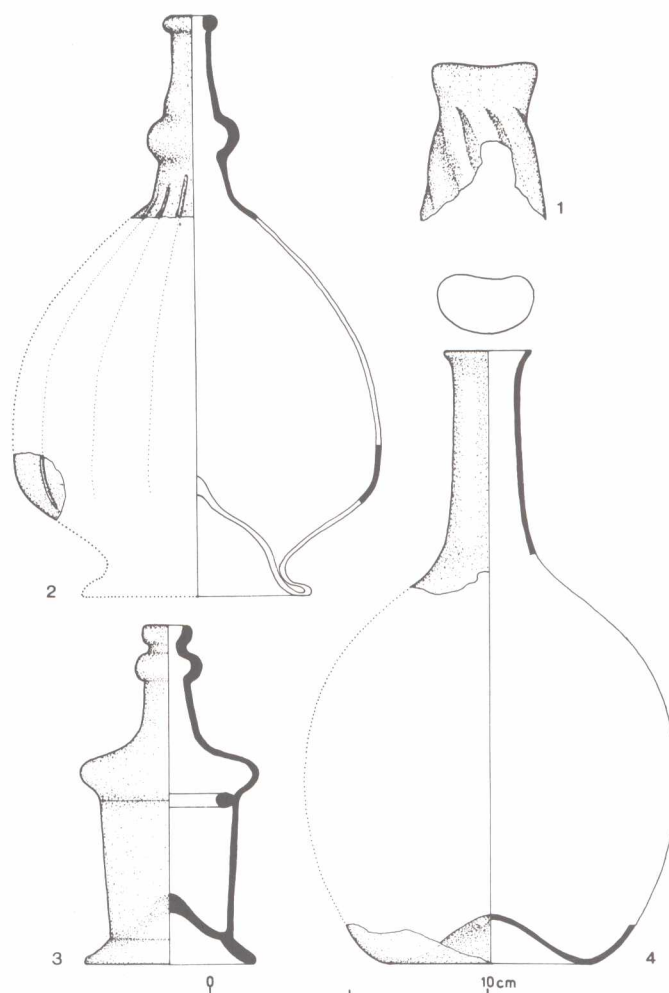


FIG. 3. Glass bottles from Buda, 13th century.

ascribed to a period earlier than the middle of the 13th century: glass panes and fragments of prunted beakers. The tips of the prunts are cobalt blue.⁸ The beakers could have been made in eastern Mediterranean or southern Italian factories.

The Buda finds from the second half of the 13th century number about 200. It would appear that both citizens and the king's household bought glassware in the town market, and the shapes of these objects have their only parallels among the products of the 12th-century glass factory unearthed in Corinth (Greece).⁹ Since there is a gap of 100 years between the Corinth and Buda mate-

rials, it is possible that these glasses were carried to Hungary from workshops in which Greek craftsmen or artisans schooled in Greek factories made glassware of Corinthian types until the end of the 13th century (Figs. 3, 4).

The most characteristic form of this type of Greek glassware is the bottle with a bulge in the neck (Fig.

8. Katalin H. Gyürky, "Glasfunde aus dem 13-14. Jahrhundert im mittelalterlichen Dominikanerkloster von Buda," *Acta Archaeologica Academiae Scientiarum Hungaricae*, v. 23, 1971, pp. 199-220, figs. 1-3.

9. G. R. Davidson, "A Medieval Glass Factory at Corinth," *American Journal of Archaeology*, v. 44, 1940, pp. 297-324.

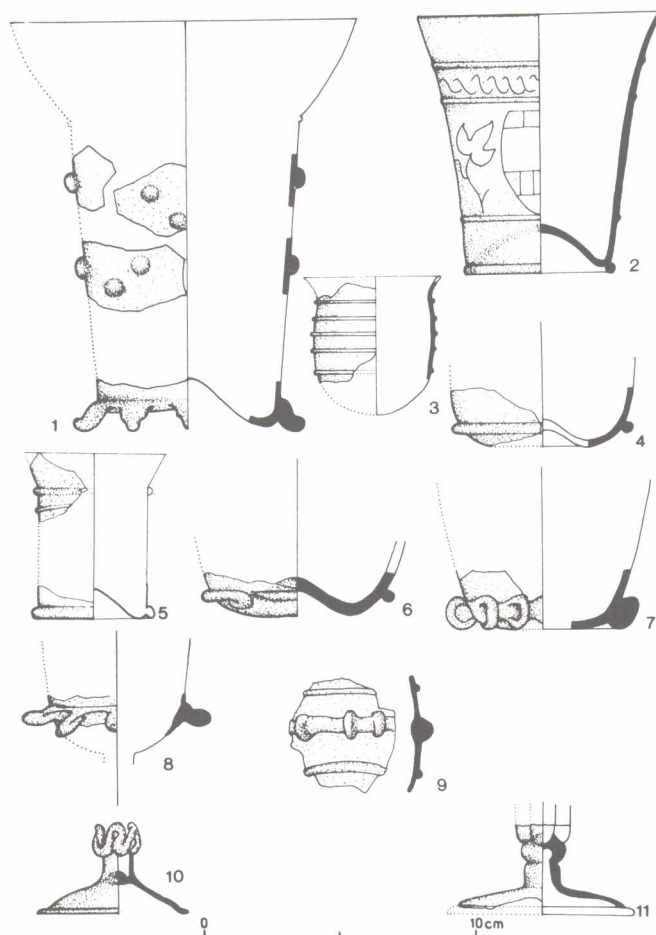


FIG. 4. Glass beakers and goblets from Buda, Royal Palace, 13th century.

3). This shape came to light not only at Buda but also at Bélapátfalva (a Cistercian abbey) and in Gyulafehérvár (today Alba Iulia in Rumania).¹⁰ Asymmetrical mold-blown ribbing is another typical decoration on these wares, which were found in Buda and at Mende-Leányvár (Fig. 5).¹¹ They have generally been discovered in very bad condition, and thus the original colors are difficult to determine. In view of their age and large quantity, these glass finds can be associated with the first journeys of Venetian merchants to Hungary. In 1217 the Hungarian king Endre II negotiated a reciprocal trade agreement with Venice and, as charters corroborate, the pact came into force in the following years.¹²

There is a remarkable glass object—the so-called “biconical bottle”—that appeared in Buda in the middle of the 13th century (Fig. 6.1), a rather early date. As far as I know, this is the earliest example of this shape. It has been described as being of Ger-

10. Iona Valter, “Die archäologische Erschliessung der Zisterzienserkloster von Bélapátfalva,” *Acta Archaeologica Academiae Scientiarum Hungaricae*, v. 33, 1981, pp. 179–200, fig. 8.6. The piece from Gyulafehérvár is unpublished; information from a private communication.

11. Zsuzsa Miklós, “Árpád-kori földvár Mende-Leányváron” [“A Ring-Work at Mende-Leányvár from the Arpadian Age”], *Archaeológiai Értesítő*, v. 108, 1981, pp. 233–234, fig. 19 (1–3).

12. Zsuzsa Teke, *Velencei-magyar kereskedelmi kapcsolatok a XIII–XV. században* [Commercial Relations between Venice and Hungary in the 13th–15th Centuries], Budapest, 1979.

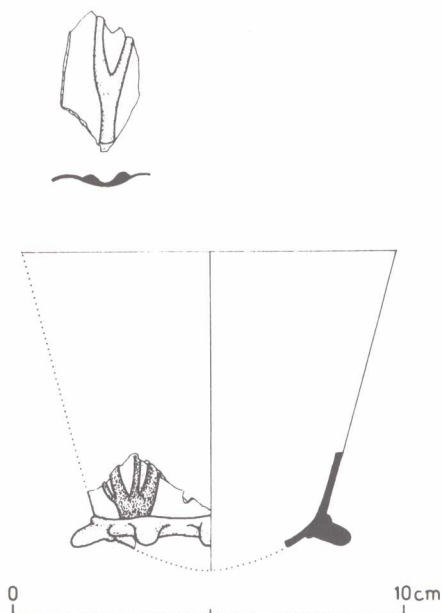


FIG. 5. Fragments with blue decoration from Buda, Royal Palace, 13th century.

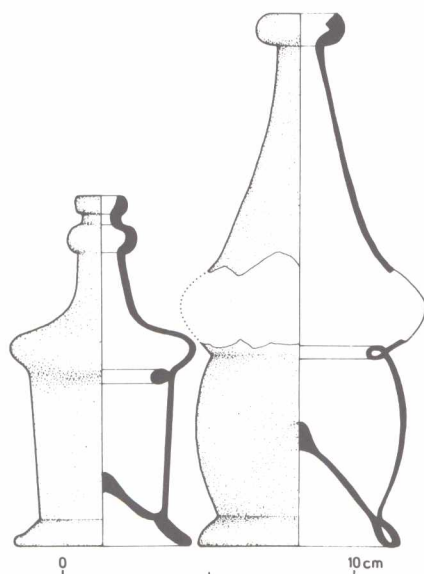


FIG. 6. Biconical bottles: 1) 13th century, 2) 14th-16th centuries.

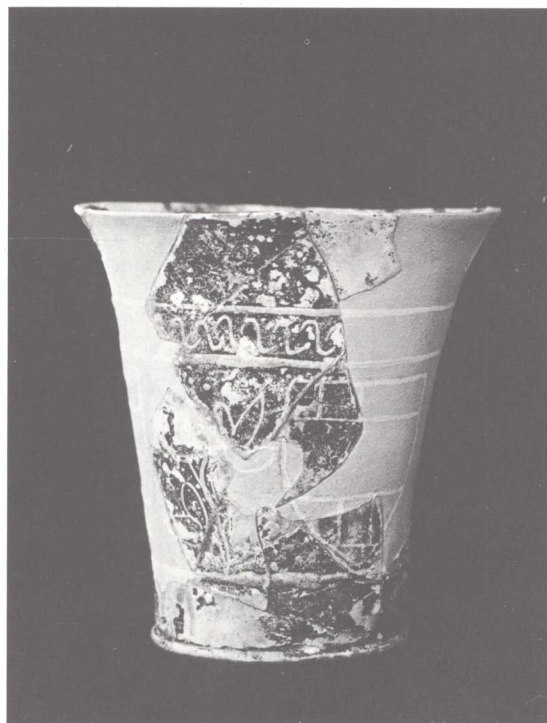


FIG. 7. Glass goblet decorated with enameled coats of arms, from Buda, about 1291-1301.

man origin. This theory may be correct (with some reservations), for we have evidence, both documentary and archeological, of the fact that merchants from Vienna and from the Rhineland (Ratisbon) were in Hungary as early as the 13th century. It is known, however, that these biconical bottles continued in production through the ensuing centuries, although not without changes in details.¹³

A glass goblet decorated with various enameled coats of arms was found in a refuse pit in the area of the Royal Palace of Buda (Figs. 4.2, 7).¹⁴ According to previous views regarding this type, it was produced in Syria by Frankish glassmakers, but re-

13. Katalin H. Gyürky, "A 14. Század üvegtípusai a budai régészeti leletanyagban" ["Glass Shapes of the 14th Century among the Material of Archeological Finds of Buda"], *Budapest Régiségei*, v. 25, 1983.

14. L. Gerevich, "Castrum Budense," *Archaeologiai Értesítő*, v. 79, 1952, pp. 150-171, pl. 36, fig. 1. *Idem*, *The Art of Buda and Pest in the Middle Ages* [note 3], pls. 29, 79, and *A budai vár feltárása* [note 6], p. 129, fig. 170.

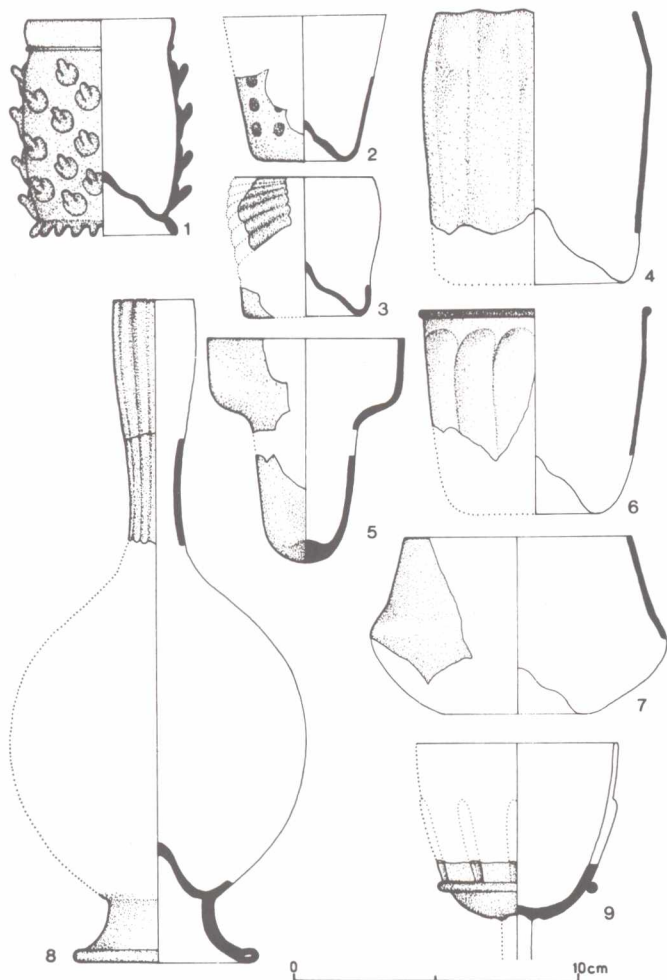


FIG. 8. Glass types of the 14th century from Óbuda and Buda, both Royal Palace and town.

cently it has been thought to be of Italian origin. A coin found with the goblet, dating from 1290 to 1306, indicates that the pit was not filled before the final decade of the 13th century. King Endre III, the last ruler of the Árpád dynasty, came to power in 1290. It is possible that the goblet was a gift from the Venetian mission to the king (honoring him on his accession) or to his queen, who was a native of Venice.

The 14th Century

At the start of the 14th century, a new style of

glassware came into use. A fine, thin-walled, crystal-clear glassware appeared in Buda at the very end of the 13th century; it has been found as fragments, free of corrosion. A change can be observed in the shapes as well. Although the forms of this type are direct continuations of the "Greek" wares, they are somewhat different in details (Fig. 8). The decorative drops on printed beakers became pointed, or "Gothic." In the area of medieval Hungary, quantities of these beakers were found at Buda, Óbuda (Fig. 9), Pozsony (today Bratislava in Czechoslovakia), Sopron, Visegrád, Kőszeg,

FIG. 9. Venetian printed beaker from Óbuda, 14th century.



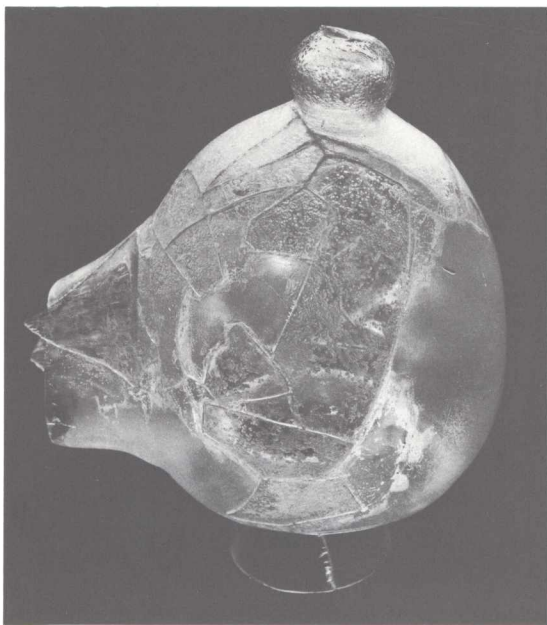


FIG. 10. Glass alembic, dated 1375–1425, from Buda (town).

Muhi, and Kaposszentjakab.¹⁵ Their shapes are entirely identical to finds in Switzerland, Germany, and Bohemia that were published as Venetian glassware, and also to beakers pictured in Italian paintings and reliefs.

Small, fine, thin-walled, optic-blown beakers¹⁶ as well as goblets with mold-blown vertical fluting were popular during the 14th century. Among these glasses are many examples having rims decorated with cobalt-blue coloring. Another kind of glass vessel of this century is the thin-necked bottle decorated with mold-blown “wrythen” fluting. All the “Greek” forms, such as the bottles with a bulge in the neck, had entirely disappeared at the end of the 13th century. The shift in the character of the glassware indicates a change in the factory or factories from which the vessels were brought.

The biconical type of bottle survived; indeed, this kind of glassware has been found in large quantities and in quite varied sizes. The thicker parts—the rings which divide the vessel into two halves, the bottoms, and the rims—are the parts which remain. Presumably “aqua vitae” and other vegetable distillates used as medicines were kept in them. The

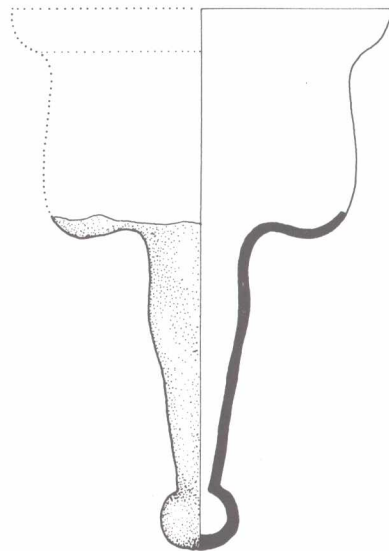


FIG. 11. Oil lamp “after a Byzantine model” made in Hungary, 15th century.

glass of these fragments is as clear and fine as that of other 14th-century glassware.

The presence of these different kinds of glass is probably explained by the development of the glass

15. Herta Bertalan, “A Budapesti Történeti Múzeum leletmentései és ásatásai” [“Rescue and Plan-Excavations of the Historical Museum of Budapest”], *Budapest Régiségei*, v. 19, 1959, p. 261, fig. 23 (Óbuda); Andrej Vallasek, “Akadémia Istropolitana vo svetle najnovsich vyskumov,” *Pamatkova Péce*, v. 26, 1966, p. 244; Veronika Plachá and Borivoj Nechvátal, “Stredoveké sklo z Bratislavy,” *Pamatky Archeologické*, v. 71, 1980, pp. 433–460; Attila Michnai, “Középkori tárgyak a régi Muhirol” [“Medieval Objects from Ancient Muhi”], *Communicationes Archaeologicae Hungariae*, 1982, p. 125; Imre Holl [note 3], figs. 39–40. *Idem*, “Sopron középkori városfalai” [“Medieval Town-Walls of Sopron”], *Archaeologiai Értesítő*, v. 94, 1967, p. 163; *Művészet I. Lajos király korában, 1342–1382* [Art in the Age of King Lajos I, 1342–1382], Catalog, Székesfehérvár, 1982, p. 163, pl. 30, fig. 97 (Visegrád).

16. They were found mostly in the Royal Palace and in the town of Buda: K. H. Gyürky [note 13]. From Pozsony: V. Plachá and B. Nechvátal [note 15], pp. 433–460. The Pécs example, in the opinion of this author, is not a 14th-century Venetian product, but was made after a Venetian model no earlier than the 15th century: Gábor Kárpáti, “Középkori kutak Pécsen” [“Medieval Wells at Pécs”], *Janus Pannonius Múzeum Évkönyve*, v. 23, 1978, pp. 165–192.



FIG. 12. Fragments of glass panes with relief decoration, from Buda, Royal Palace, 15th century.

industry in Murano, which became the most important supplier of glasswares to Europe at the end of the 13th century. In the 1300s, Hungarian merchants developed a popular market both for these wares and for Hungarian-made glass products.

These conclusions, of course, need additional support on the basis of more published finds and comparable material both in Hungary and abroad. As the first step of a detailed examination of the glass finds, a catalog of a collection consisting of 940 pieces has been organized.¹⁷

The first oil lamps found in Buda are dated to the 14th century (Fig. 8.5).¹⁸ A glass alembic (the head of a distilling apparatus) was also found in that town (Fig. 10). Although this was an imported piece, two fragments of a similar vessel made in a local workshop were found with it; they may date from 1375 to 1425. The first glasshouses were established just at this time in Hungary in the environs of the mining towns, chiefly to manufacture this type of vessel.¹⁹

Glass oil lamps and round window panes, also mentioned in the lists of products of the 17th century, seem to have been important as early as the 1300s. The lamps have various forms; even among finds of the 15th and 16th centuries there was a type that preserved a Byzantine appearance. Thus the Hungarian glass industry retained some Byzantine traditions even after importation from the Levant had ceased (Fig. 11).

Glass window panes found in most excavations of the Middle Ages likewise seem to be products of

inland glasshouses. These have been discovered in Budapest and at Pécs (Fig. 12) in various colors and sizes; some even have several optic-blown patterns, cellular or radial.

Makers of stained glass windows have been mentioned in documentary sources since the first third of the 14th century.²⁰ However, the architectural monuments of the Hungarian Middle Ages were so damaged by many wars that the existence of window paintings can be proved only by fragments of the colored glass panes. Cut, green glass plates, originally components of colored windows, were found in the area of the Royal Palace in Buda; these can be dated to the second half of the 13th century.²¹

The 15th Century

Anthonius Italicus is mentioned in Buda in 1419 as "factor seu laborator vitrorum" and "civis

17. Katalin H. Gyürky, *A Budapesti Történeti Múzeum középkori üvegleletei* [Medieval Glass Finds of the Historical Museum of Budapest]. It will appear as a publication of this museum.

18. Katalin H. Gyürky, "Középkori üvegleletek Budáról" ["Medieval Glass Finds from Buda"], *Communicationes Archaeologicae Hungariae*, 1982, p. 159, fig. 4.

19. Katalin H. Gyürky, "Forschungen auf dem Gebiete des mittelalterlichen Buda: Ein unbekanntes Wohnhaus und der Ursprung eines Destillierkolbens," *Acta Archaeologica Academiae Scientiarum Hungaricae*, v. 34.

20. The earliest known data about colored glass panes are from 1329, from Esztergom: Sághegyi [note 2], p. 62.

21. L. Gerevich, Kornél Seitz, and Imre Holl, "Megjegyzések a budai vár XIII. századi építéstörténetéhez" ["Observations on the 13th-Century Building History of the Castle of Buda"] *Művészettörténeti Értesítő*, 1953, pp. 210–219.

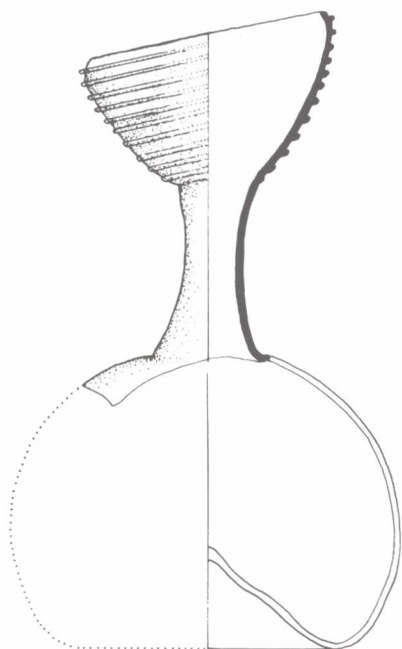


FIG. 13. Narrow-necked bottle with funnel-shaped mouth decorated with blue glass threads, beginning of the 15th century, from Buda (town).



FIG. 14. Venetian chalice with the arms of Beatrix of Arragon from Buda, Royal Palace, second half of the 15th century.

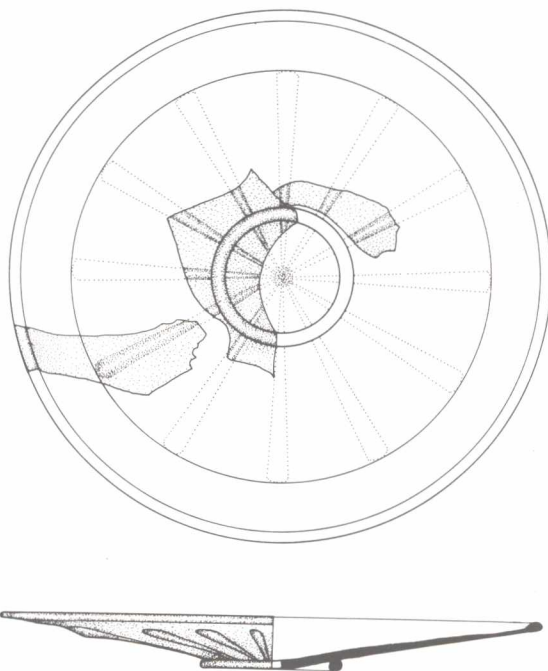


FIG. 15. Fragments of a Venetian glass plate, from Buda, Royal Palace, end of the 15th century.

civitatis Budensis.”²² In 1408 a Hungarian name, Martino de Ungaria, appears in the Venetian documents.²³ Among the archeological finds at the Royal Palace of Buda are glass goblets which would have been made by Hungarian glassmakers schooled in Venice. They are said to be *façon de Venise* but are much clumsier than the originals.

At present, however, we are unable to distinguish the glasswares of the first half of the 15th century with the help of valid provenances. It seems that German as well as Venetian imports became significant in the second half of that century. Variations of the German form called *Kuttrolf* abound, and these were also made in local factories (Fig. 13). Besides the biconical bottles, the *Krautstrunk*, a green beaker with applied prunts and everted lip, and the *Maigelein*, a shallow cup, are the most

22. Ferenc Salamon, *Budapest története* [A History of Budapest], v. 2, Budapest, 1885, p. 553.

23. L. Zecchin, “Cronologia vetraria veneziana e muranese dal 1408 al 1415,” *Rivista della Stazione Sperimentale del Vetro*, 1975, p. 61.

characteristic German shapes. Another vessel of German origin, the *Stangenglas*, is represented by two small fragments only.

A few typical Bohemian forms can be found, but only occasionally; thus these could have come to Buda as articles for personal use rather than for trade. Evidently, only the Italian and German factories were able to meet the demand for these types of wares.²⁴

In the first half of the 15th century, apparently there were fewer Italian imports. Instead of wares, craftsmen themselves arrived. In the second half of the century, the spread of Renaissance art and taste made the glasswares of Murano popular again (Fig. 14). The town council of Bártfa, a small community in the far frontier region, bought chalices decorated with the arms of the town. The Benedictine monastery of Somogyvár also possessed a Venetian chalice.²⁵ Fragments of original glass products from Venice were discovered not only in castles, as in Kőszeg, but also in small villages such as Sarvaly (com. Veszprém).²⁶

Venetian glass goblets, chalices, and plates were found in the Royal Palace and town of Buda. The famous millefiori products are represented by fragments of jars and chalices,²⁷ but most of these cannot be linked with the factory of any well-known Venetian glassmaking dynasty.

Although their discovery was very important to glass scholars, the Renaissance glass finds from the Royal Palace of Buda are fairly simple and restrained in their decoration. The rims of the chalices' crystal bowls are decorated with enameled borders and they stand on cobalt-blue supports. There is no decoration on the plates (Fig. 15). The Venetian glassmakers worked to order; this is verified by the family coats of arms and portraits which appear on these beautiful vessels. Thus the glasswares used at the Hungarian Royal Court were of finer quality, probably at the customer's request.



FIG. 16. Dark green Venetian glass goblet with gold scale decoration, about 1500, from Buda, Royal Palace.

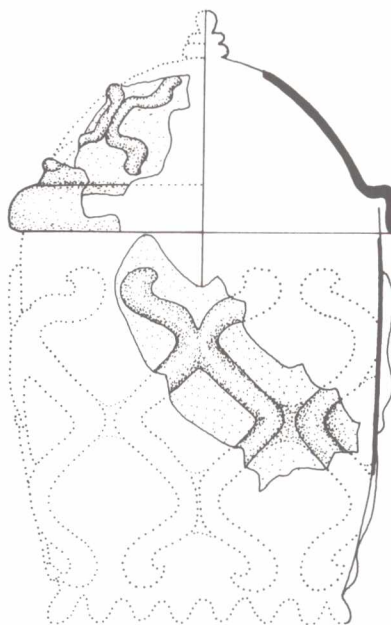


FIG. 17. Reconstructed emerald green Venetian glass goblet and lid, about 1500, from Buda, Royal Palace.

24. From the area of the Royal Palace of Buda we have one fragment each of a so-called *Stangenglas*, a bottle, and a pruned beaker. These are characteristic Bohemian products. Their publication is in process.

25. Viktor Myskovszky, "Bártfa középkori műemlékei"

["Medieval Monuments of Bártfa"], *Monumenta Hungariae Archaeologia*, v. 4, part 2, Budapest, 1880. For the chalice of Somogyvár, see Sághegyi [note 2], p. 78, fig. 29.

26. Imre Holl and Nándor Parádi, "Das mittelalterliche Dorf Sarvaly," *Fontes Archaeologici Hungariae*, Budapest, 1982, fig. 41. The lid of a chalice from the Castle of Kőszeg can also be seen in this figure.

27. Gerevich, *The Art of Buda and Pest in the Middle Ages* [note 3], pls. 136, 364.

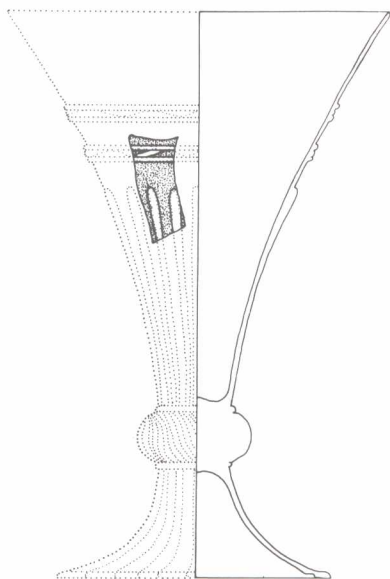


FIG. 18. Venetian chalice decorated with white glass threads, (reconstruction). First half of the 16th century, from Buda, Dominican cloister.

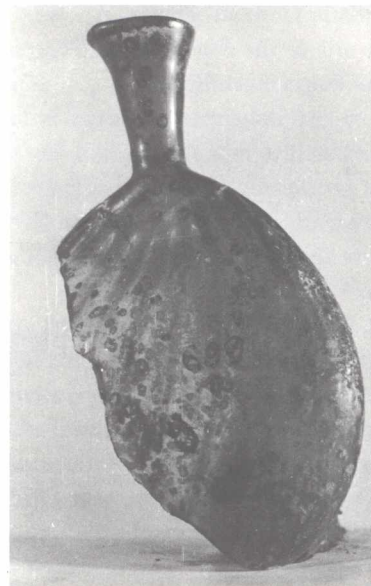


FIG. 19. Green glass flask, 16th century, probably the product of a Hungarian glasshouse. From St. Peter, a suburb of Buda.

The 16th Century

A change can be observed at the beginning of the 16th century. After the death of King Mátyás, glass products were much more ornate (Fig. 16) in the time of King Ulászló II. The role of the customer can readily be seen in the case of a glass goblet (Fig. 17). This goblet and its lid have been reconstructed from small fragments; some other examples of this shape are known, but the decoration and colors are different. The Buda goblet is emerald green, and the intermediate spaces of the cut net-decoration are gilded. The enameling and flower decoration found on this goblet were not applied to other similar pieces.²⁸

A chalice, decorated with trails applied to its knop, indicates the first appearance of the netted (*reticella*) vessels (Fig. 18). Only a few pieces of this type are known. Fragments of five vessels have been found in Hungary: one in the Royal Palace of Buda, two in the town of Buda, and one each at Visegrád and Kőszeg.²⁹ Ring bracelets decorated with colored glass threads and concentric rings also appeared in large quantities during the 1500s.

In addition to German and Italian imports, the local glass industry played an important role at the end of the 15th century and the beginning of the 16th (before the Turkish occupation). Many glass finds have been discovered, even in a village as small as Csőt, near Buda, and these finds can be considered products of the Hungarian industry. The different characteristics of the Venetian and German wares lead us to this conclusion, since there will be no more concrete basis for the inference until a glasshouse and its discards can be found and excavated (Fig. 19). The fact that the most popular types found in several areas of the country differ in details—for example, the form of the mouths of

28. Katalin H. Gyürky [note 18], p. 156, fig. 2.

29. Katalin H. Gyürky, "Venezianische und türkische Importartikel im Fundmaterial von Buda aus der ersten Hälfte des 16. Jh.," *Acta Archaeologica Academiae Scientiarum Hungariae*, v. 26, 1974, p. 420, figs. 5–7. For the Visegrád chalice, see *Matthias Corvinus und die Renaissance in Ungarn*, Schallaburg 82. (Catalog) 396, No. 373. For the Kőszeg chalice, see Imre Holl's publication, in preparation.

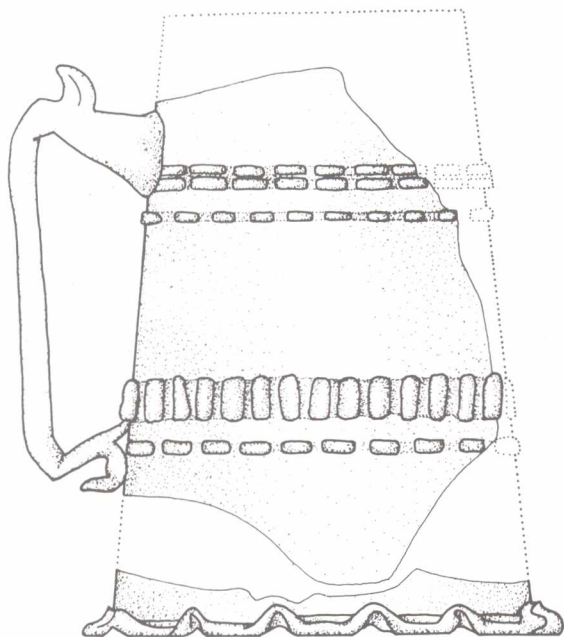


FIG. 20. A 16th–17th-century green pitcher from Sopron. Probably the product of a Hungarian glasshouse.

the biconical bottles—provides similar proof of the existence of various glasshouses.

There is one type of pitcher among the archeological finds which is regarded as a local product, though at present we know of no recorded parallels from other countries. Such pitchers have been found in Hungary in both the Royal Palace and town of Buda, the royal hunting seat of Nyék, Sopron (Fig. 20), and Kőszeg. The archeological levels in which these objects were found show that they were made at the end of the 15th century. Their colors are green or blue.³⁰

The green tankards (Fig. 21) were in use later, during the Turkish occupation of Buda, and they were probably made in the 17th century. Similar vessels were found in several settlements of the country, including Szombathely and Gyulafehérvár in Transylvania (today Alba Iulia in Rumania).³¹

The examination of medieval Hungarian glass

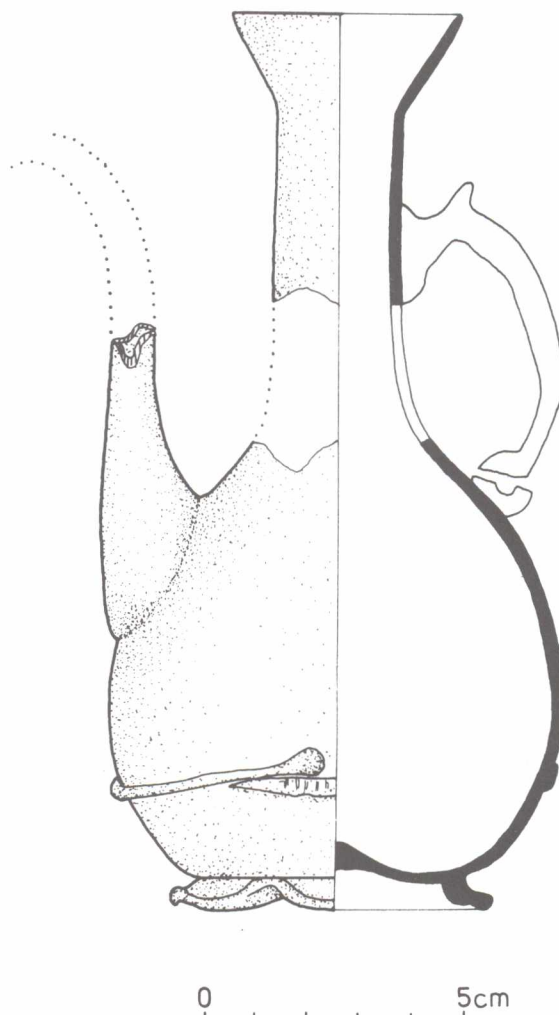


FIG. 21. Green glass tankard. Probably the product of a Hungarian glasshouse, made in the 16th or 17th century. From Buda, Royal Palace.

finds is still in an early stage. Publication of vessels from many important provenances has not yet been accomplished.

30. József Höllrigl, "Régi magyar üvegek" ["Ancient Hungarian Glass Objects"], *Magyar Művészet*, v. 10, 1934, pp. 176–187 (Nyék, Sopron); Katalin H. Gyürky [note 19], pl. 8, fig. 8; Imre Holl, "Sopron középkori városfalai" [note 15], v. 98, 1971, pp. 24–44, fig. 20.1.

31. Gerevich, *The Art of Buda and Pest in the Middle Ages* [note 3], pls. 138, 376.